

REMARKS

Claims 1-3, 33, and 40-56 remain pending in this Application. Claims 3, 33, and 41-54 have been indicated as allowed by the Office Action mailed on December 14, 2007 (“Office Action”). Claims 1 and 40 have been amended and Claims 55-56 have been added by this Response. The Applicant asserts that no new matter has been added and that support can be found in the Application as filed. The Applicant also respectfully asserts that as a result of these amendments and the remarks below that the Office Action has been fully responded to, and that all of the pending claims are now in condition for allowance. Accordingly, the Applicant respectfully requests the Examiner’s consideration of these amendments and allowance of the present Application.

Rejections under 35 U.S.C. § 102

In the Office Action, Claims 1 and 40 were rejected under 35 U.S.C. § 102(b) as being anticipated by the non-patent literature reference “Optical and Acoustic Sensing of Lean Blowout Precursors,” by Muruganandam et al (*AIAA*). The Office Action also rejected Claims 1, 2, and 40 under § 102(b) as being anticipated by U.S. Patent No. 5,544,478 to Shu et al. (“*Shu*”).

***AIAA* is not prior art under 35 U.S.C. § 102(b) due to Applicant’s priority date**

The Applicant respectfully directs attention to the Related Application Data section of the Application. Included in the Related Application Data section is a priority claim to U.S. Provisional Patent Application No. 60/422,385, filed on October 30, 2002. *AIAA* indicates that it

was an exhibit at a conference during July 7-10, 2002. Therefore, because July 7-10, 2002 is not “more than one year prior to the date of the application for [the Applicant’s] patent,” (35 U.S.C. § 102(b)), it can not qualify as prior art under § 102(b). Accordingly, the Applicant respectfully states that the rejections of Claims 1 and 40 over *AIAA* are hereby traversed because *AIAA* does not qualify as prior art under 35 U.S.C. § 102(b).

Claims 1, 2, and 40 are patentable over Shu

In the Office Action, Claims 1, 2, and 40 are rejected under 35 U.S.C. § 102(b) as being anticipated by *Shu*.

As an initial matter, the Applicant has amended Claim 1 to further clarify the analysis that may be performed to identify a blowout precursor. As amended, Claim 1 includes, among others, the following elements:

a blowout precursor detection unit that receives the optical signals and performs at least one of a raw data analysis, statistical analysis, or wavelet analysis to identify a blowout precursor.

Shu is generally directed toward an optical radiation detector that is employed for monitoring and diagnosis of combustion dynamics in gas turbine engines. (*Shu*, Abstract). *Shu* relates to an analyzer that includes a Fast Fourier Transform spectrum analyzer for determining magnitudes of the various spectral acoustic frequency components to monitor combustion dynamics. (*Shu*, col. 6, lines 26-32). *Shu*, however, does not reference any data analysis techniques other than spectrum analysis that may be performed on the signal generated from the optical radiation detector. (*But see Shu*, col. 8, lines 3-7 stating affirmatively that the “[o]utput of the analog-to-digital converter is connected to an input of a spectrum analyzer, which

typically employs Fast Fourier Transform techniques to determine the spectral frequency components of the signal from [the] detector”). Furthermore, *Shu* indicates the importance of performing spectral analysis in the systems therein, stating that “an aspect of the invention stems from the discovery of the correlation or coincidence of spectral acoustic frequency components of the ultraviolet emission from the combustion flame with dynamic pressure waves characteristic of the combustion dynamics.” (See *Shu*, col. 8, lines 60-64).

The Applicant respectfully submits that *Shu* does not teach, suggest, or render obvious “a blowout precursor detection unit that receives the optical signals and performs at least one of a raw data analysis, statistical analysis, or wavelet analysis to identify a blowout precursor,” as in amended Claim 1. Because *Shu* only describes spectral analysis techniques, the reference cannot be held to teach, suggest, or render obvious any of the techniques of raw data analysis, statistical analysis, or wavelet analysis performed on optical signals to identify a blowout precursor.

Accordingly, the Applicant respectfully states that independent Claim 1 as hereby amended is allowable over *Shu*, for at least these reasons. Furthermore, the Applicant respectfully asserts that dependent Claim 2 and newly added dependent Claim 55 are patentable as a matter of law, depending from an allowable claim, notwithstanding their independent recitation of patentable features.

The Applicant has also hereby amended independent Claim 40 in a manner similar to independent Claim 1. Thus, the Applicant respectfully submits that for at least the reasons as apply to independent Claim 1, independent Claim 40 is allowable over *Shu*. Furthermore, the Applicant respectfully asserts that newly added dependent Claim 56 is patentable as a matter of

law, depending from an allowable claim, notwithstanding its independent recitation of patentable features.

Judicially Created Nonstatutory Double Patenting Rejections

Claim 40 was rejected in the Office Action on the grounds of the judicially created nonstatutory double patenting rejection over claims 1-27 of U. S. Patent 7,089,746. In response to this rejection, the Applicant has submitted, concurrently with the filing of this response, a Terminal Disclaimer in compliance with 37 C.F.R. 1.321 to overcome the judicially created nonstatutory double patenting rejection.

CONCLUSION

Reconsideration of the present Application is requested in light of the amended claims and the remarks. The Applicants believe they have responded to each matter raised by the Examiner. Allowance of the claims is respectfully solicited. It is not believed that any extensions of time or additional fees are required beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. §1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 19-5029.

Respectfully submitted,



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